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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,083	04/02/2001	Krishnadas C. Kootale	020431.0790	1702

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EXAMINER

HAMILTON, MONPLAISIR G

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 09/10/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/825,083

Applicant(s)

KOOTALE, KRISHNADAS C.

Examiner

Monplaisir G Hamilton

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-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-12, 15-21, 24-29, 31 and 33 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 13, 14, 22, 23, 30, 32 and 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-34 are pending.

Response to Arguments

2. Applicant's arguments filed 7/29/03 have been fully considered but they are not persuasive.

Applicant's argument regarding 101 is not persuasive. Claims 1-9 and 29-30 are not tangibly embodied, therefore not within the technological arts. Applicant's Claims are not embodied on a computer-readable media. Examiner suggests clarifying that the process is a computer-implemented process.

Applicant also argues Huang does not disclose "determining a new value for each child by allocating the demand forecasts for the parents to the children based on the parent-child relationships, the current demand values of the children, and the variations of the children."

Examiner disagrees with applicant. Huang col 40, lines 30-35 discloses a tree-structure represents the bill of material where each node of the tree corresponds to a repair item, and each arc represents a parent-child relationship. Huang further discloses that analysis is performed on demand history data and point of sales data to characterize the demand for parts/products (col 40, lines 25-30, 40-45; col 42, lines 25-30). Huang further discloses that to determine shipment levels for a product, the demand for that product is used (col 42, lines 30-35). Huang col 60, line 55-col 61, line 15 discloses, using forecast demand and standard deviation to determine the inventory level for the products. In addition Huang discloses a top-down approach (the parents

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value is used to calculate the value for the children) for analyzing forecast data (col 21, lines 45-65; col 44, lines 40-45). Huang also discloses that data domains are represented as tree structures (col 93, 45-col 94, lines 30). Huang essentially discloses that product data is represented as a tree structure, and that based on standard deviation (variation) and forecast demand for the products, an inventory policy is developed. Huang also discloses calculating demand data for children based on the value of the parents, wherein the value of the new child value is related to the parent value, current child value and standard deviation (variation). Huang's top-down approach (col 21, line 45-col 22 lines 5; col 23, line 57-col 24, line 10) is equivalent to the claimed "determining a new value for each child by allocating the demand forecasts for the parents to the children based on the parent-child relationships, the current demand values of the children, and the variations of the children". Therefore, Huang anticipates the claimed invention.

Applicant further argues that Huang "fails to disclose determining a new value for each child by allocating the new values of the parents to the children based on the parent-child relationships, the current values of the children, and the variations of the children".

Examiner disagrees. Lobley discloses calculation new values for the parent in a hierarchy (col 9, lines 40-50). Huang discloses using the value of a parent and applying a top down approach to estimate demand for the children of products in a product hierarchy. Examiner asserts that the top down approach disclosed by Huang essentially takes the current child demand, parent demand and standard deviation (variation) to calculate the new demand for the

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products/children in the hierarchy. Examiner therefore holds that disclosures of Huang and Lobely render that claimed invention unpatentable.

Finally, in response to applicant's argument that R^T is defined in the specification, although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Appropriate correction is required.

Claim Objections

3. Claims 4, 13, 22, 30, 32 and 34 are objected to because of the following informalities:

R^T is undefined, leading to indefinite claim language. Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-9 and 29-30 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Referring to Claims 1 and 29:

The claimed subject matter is not within the technological arts. Applicant has claimed manipulation of data, an abstract idea. The claimed method can be implemented by hand.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 29, 31, and 33 are rejected under 35 U.S.C. 102(a) as being anticipated by US 6151582 issued to Huang et al.

Referring to Claims 29, 31, and 33:

Huang discloses a method for allocating data in a hierarchical, multi-dimensional organization for data comprising: determining demand forecasts for one or more parents in the organization of data (col 19, lines 45-55; col 21, lines 50-55); determining current demand data values for one or more children in the organization data, each child being hierarchically related to one or more of the parents (col 8, lines 1-5; col 16, lines 60-65); determining the relationship between each parent and its children (col 7, lines 1-5), the parents and children each representing storage locations within the organization of data that is uniquely identified by the positions of members in two or more dimensions of the organization of data (col 7, lines 35-50); determining a variation for each child, the variation calculated using statistical techniques based on the historical variation in the values of the child over a specified time period (col 42, line 65- col 43, line 5); and determining a new demand value for each child by allocating the demand forecasts for the parents to the children based on the parent-child relationships, the current demand values

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of the children, and the variations of the children (col 21, lines 45-60; col 26, lines 25-35; col 40, lines 25-50; col 44, Table 9).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3, 6-12, 15-21, and 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6151582 issued to Huang et al in view of 5758006 issued to Lobley et al.

Referring to Claims 1, 10, 19 and 28:

Huang discloses a method for allocating data in a hierarchical organization of data, comprising: determining the relationship between each parent and its children (col 7, lines 1-5; col 16, lines 35-40); determining a variation for each child (col 27, lines 34-40); and determining a new value for each child by allocating the new values of the parents to the children based on the parent-child relationships, the current values of the children, and the variations of the children (col 21, lines 45-60; col 26, lines 25-35; col 40, lines 25-50; col 44, Table 9).

Huang does not explicitly disclose “determining new values for one or more parents in the organization of data, each child being hierarchically related to one or more of the parents”

Lobley discloses determining new values for one or more parents in the organization of data, each child being hierarchically related to one or more of the parents (col 9, lines 30-46);

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Huang such that new parent values are calculated during the data allocation. One of ordinary skill in the art would have been motivated to do this

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because it would allow the top-down approach to ensure consistency throughout the hierarchical model (col 9, lines 44-46).

Referring to Claims 2, 11 and 20:

Huang in view of Lobley disclose the limitations as discussed in Claims 1, 10 and 19 above. Huang further discloses the new values of the parents represent demand forecasts to be allocated to the children data (col 19, lines 45-55; col 21, lines 50-55).

Referring to Claims 3, 12, and 21:

Huang in view of Lobley disclose the limitations as discussed in Claims 1, 10 and 19 above. Huang further discloses the variation of each child is calculated using statistical techniques based on historical variation in the values of the child over a specified time period (col 42, line 65- col 43, line 5).

Referring to Claims 6, 15, and 24:

Huang in view of Lobley disclose the limitations as discussed in Claims 1, 10 and 19 above. Huang further discloses the organization of data comprises one or more dimensions; and the parents and children are all members of the same dimension within the organization of data (col 7, lines 35-50).

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Referring to Claims 7, 16 and 25:

Huang in view of Lobley disclose the limitations as discussed in Claims 1, 10 and 19 above. Huang further discloses the organization of data comprises multiple dimensions; and the parents and children are each associated with multiple dimensions of the organization data (col 7, lines 35-50).

Referring to Claim 8, 17 and 26:

Huang in view of Lobley disclose the limitations as discussed in Claims 7, 16 and 25 above. Huang further discloses the parents and children each represent a storage location within the organization of data that is uniquely identified by the positions of members in two or more of the dimensions (col 7, lines 35-50).

Referring to Claim 9, 18 and 27:

Huang in view of Lobley disclose the limitations as discussed in Claim 7, 16 and 25 above. Huang further discloses the organization of data comprises at least two dimensions selected from the group consisting of a time dimension, a product dimension, and a geography dimension (col 7, lines 35-50).

Allowable Subject Matter

7. Claims 4-5 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten, in independent form including all of the limitations of the base claim and any intervening claims, to overcome the under 35 U.S.C. 101 rejection.

Referring to Claims 4 and 30:

The following is a statement of reasons for the indication of allowable subject matter:

The cited prior art neither alone or in combination does not teach the method of Claims 1 and 29 wherein the new value of each child is determined using the equation:

$$\bar{x}' = \bar{x} + \sum R^T (\sum R^T)^{-1} (\bar{y} - R\bar{x}),$$

in which \bar{x}'_i comprises a vector of the new (demand) values of the children, \bar{x} comprises a vector of the current demand values of the children, Σ comprises a matrix of the variations of the children, R comprises a matrix identifying the parent-child relationships, and \bar{y} comprises a vector of the new values/demand forecasts of the parents. The prior art is silent about the use of a matrix identifying the parent child relationships, and using this matrix to calculate new child values based on parent, child and variation matrices/vectors.

Referring to Claim 5:

The following is a statement of reasons for the indication of allowable subject matter:

The cited prior art neither alone or in combination does not teach the method of Claim 1 wherein the new value of each child is determined using the equation:

$$\bar{x}'_i = \bar{x}_i + \frac{\sigma_{i,i}}{\sum_i \sigma_{i,i}} (\bar{y} - \sum_i \bar{x}_i),$$

in which \bar{x}'_i comprises the new value of the child i , \bar{x}_i comprises the current value associated with a child i , $\sigma_{i,i}$ comprises the variation of the child i , $\sum_i \sigma_{i,i}$ comprises the sum of the current values for the children, and \bar{y} comprises the new value of the parent of the child i . The prior art is silent as to the form of equation used to calculate child values, while applying the top-down analysis.

8. Claims 13, 14, 22, 23, 32 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Referring to Claims 13, 22, 32 and 34:

The following is a statement of reasons for the indication of allowable subject matter:

The cited prior art neither alone or in combination does not teach the method of Claims 1, 10 and 19, 29, 31 and 33 wherein the new value of each child is determined using the equation:

$$\bar{x}' = \bar{x} + \sum R^T (R \sum R^T)^{-1} (\bar{y} - R\bar{x}),$$

in which \bar{x}' comprises a vector of the new (demand) values of the children, \bar{x} comprises a vector of the current demand values of the children, Σ comprises a matrix of the variations of the children, R comprises a matrix identifying the parent-child relationships, and \bar{y} comprises a vector of the new values/demand forecasts of the parents. The prior art is silent about the use of

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a matrix identifying the parent child relationships, and using this matrix to calculate new child values based on parent, child and variation matrices/vectors.

Referring to Claims 14 and 23:

The following is a statement of reasons for the indication of allowable subject matter:

The cited prior art neither alone or in combination does not teach the method of Claims 1, 10 and 19, wherein the new value of each child is determined using the equation:

$$\bar{x}'_i = \bar{x}_i + \frac{\sigma_{i,i}}{\sum_i \sigma_{i,i}} (\bar{y} - \sum_i \bar{x}_i),$$

in which \bar{x}'_i comprises the new value of the child i , \bar{x}_i comprises the current value associated with a child i , $\sigma_{i,i}$ comprises the variation of the child i , $\sum_i \sigma_{i,i}$ comprises the sum of the current values for the children, and \bar{y} comprises the new value of the parent of the child i . The prior art is silent as to the form of equation used to calculate child values, while applying the top-down analysis.

Final Rejection

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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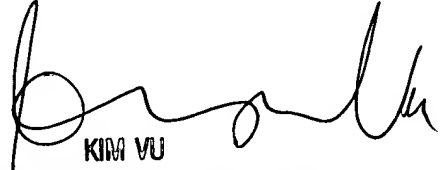
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monplaisir G Hamilton whose telephone number is 1703-305-5116. The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y Vu can be reached on 1703-305-4393. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 1703-305-3900.

Monplaisir Hamilton


KIM VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100